

IN THE CLAIMS

1. - 24. (cancelled)

25. (currently amended) An isolated haemocyanin polypeptide according to claim 24, comprising at least one amino acid sequence recombinantly expressed in a suitable host cell and selected from the following group:

~~SEQ ID NO:25 (HtH1 domain a + signal peptide),~~
~~SEQ ID NO:26 (HtH1 domain b),~~
~~SEQ ID NO:27 (HtH1 domain c),~~
~~SEQ ID NO:28 (HtH1 domain d),~~
~~SEQ ID NO:29 (HtH1 domain e),~~
~~SEQ ID NO:30 (HtH1 domain f),~~
~~SEQ ID NO:31 (HtH1 domain g),~~
~~SEQ ID NO:32 (HtH1 domain h),~~
~~SEQ ID NO:33 (partial HtH2 domain b),~~
~~SEQ ID NO:34 (HtH2 domain c),~~
~~SEQ ID NO:35 (HtH2 domain d),~~
~~SEQ ID NO:36 (HtH2 domain e),~~
~~SEQ ID NO:37 (HtH2 domain f),~~
~~SEQ ID NO:38 (HtH2 domain g),~~
~~SEQ ID NO:39 (HtH2 domain h),~~
~~SEQ ID NO:40 (partial KLH1 domain b),~~
~~SEQ ID NO:41 (KLH1 domain c),~~
~~SEQ ID NO:42 (partial KLH1 domain d),~~
~~SEQ ID NO:43 (partial KLH1 domain e),~~
SEQ ID NO:44 (KLH2 domain b),
SEQ ID NO:45 (KLH2 domain c),
SEQ ID NO:46 (partial KLH2 domain d),

SEQ ID NO:47 (KLH2 domain g),
SEQ ID NO:48 (partial KLH2 domain h),
~~SEQ ID NO:63 (HtH1 domain a' + signal peptide),~~
~~SEQ ID NO:64 (HtH1 domain h'),~~
~~SEQ ID NO:65 (partial HtH2 domain a),~~
~~SEQ ID NO:156 (complete HtH2 domain a),~~
~~SEQ ID NO:66 (HtH2 domain b'),~~
~~SEQ ID NO:67 (HtH2 domain d'),~~
~~SEQ ID NO:68 (HtH2 domain e'),~~
~~SEQ ID NO:69 (partial KLH1 domain b'),~~
~~SEQ ID NO:70 (KLH1 domain e'),~~
~~SEQ ID NO:71 (KLH1 domain f),~~
~~SEQ ID NO:72 (KLH1 domain g),~~
~~SEQ ID NO:73 (KLH1 domain h),~~
SEQ ID NO:74 (KLH2 domain b'),
SEQ ID NO:75 (KLH2 domain c'),
SEQ ID NO:76 (KLH2 domain d'),
SEQ ID NO:77 (KLH2 domain e),
SEQ ID NO:78 (KLH2 domain f),
SEQ ID NO:79 (KLH2 domain g'), and
SEQ ID NO:158 (partial KLH2 domain h),

or a sequence that shows at least 90% homology to
one of the amino acid sequences according to SEQ ID NOS 44-
48, 74-79 and 158 over a partial region of 90 amino acids.

~~or a fragment of one of these sequences which has the~~
~~immunological properties of at least one domain of a~~
~~haemocyanin.~~

32. (currently amended) Recombinant The recombinant haemocyanin polypeptide according to claim 25, characterized in that the haemocyanin polypeptide comprises either the sequences SEQ ID NO: 44 to 48 or the sequences SEQ ID NO:44 to 46, 77, 78, 47, 48 and is KLH2 from *Megathura crenulata*, it being possible in each case for the sequence with SEQ ID NO:44 to be replaced by SEQ ID NO:74, SEQ ID NO:45 to be replaced by SEQ ID NO:75, SEQ ID NO:46 to be replaced by SEQ ID NO:76 and/or SEQ ID NO:47 to be replaced by SEQ ID NO:79.

33. (currently amended) Recombinant The recombinant haemocyanin polypeptide according to claim 25 one of claims 24 to , characterized in that it is bonded covalently to viruses, virus constituents, bacteria, bacteria constituents, DNA, DNA constituents, inorganic or organic molecules, such as e.g. carbohydrates, peptides and/or glycoproteins.

34. (currently amended) Recombinant The recombinant haemocyanin polypeptide according to claim 25 one of claims 24 to 33, characterized in that the haemocyanin polypeptide is non-glycosylated.

35. (currently amended) Recombinant The recombinant haemocyanin polypeptide according to claim 25 one of claims 24 to 33, characterized in that the haemocyanin polypeptide is glycosylated.

36. - 37. (cancelled)

38. (currently amended) Pharmaceutical A
pharmaceutical composition, comprising a haemocyanin polypeptide according to claim 25 24 and physiologically tolerated additives.

39. (currently amended) Pharmaceutical The
pharmaceutical composition according to claim 38, characterized in that it is used as an antiparasitic composition, antivirus composition or as an antitumor composition.

40. (currently amended) Pharmaceutical The
pharmaceutical composition according to claim 38, characterized in that it is used for treatment of one of the following diseases: schistosomiasis, high blood pressure, surface bladder carcinomas, epithelial carcinomas, ovarian carcinoma, mammary carcinoma, bronchial carcinoma and colorectal carcinoma.

41. (currently amended) Pharmaceutical The
pharmaceutical composition according to claim 38, characterized in that it is used as a vaccine.

42. (currently amended) Pharmaceutical The
pharmaceutical composition according to claim 38, characterized in that it is used for prevention of cocaine abuse.

43. - 50. (cancelled)